HIGH POWER CD PLAYER
WITH FM/AM TUNER

SUPER TUNER III

# OWNER'S MANUAL

Thank you for purchasing this PIONEER product. Before attempting operation, be sure to read this manual.

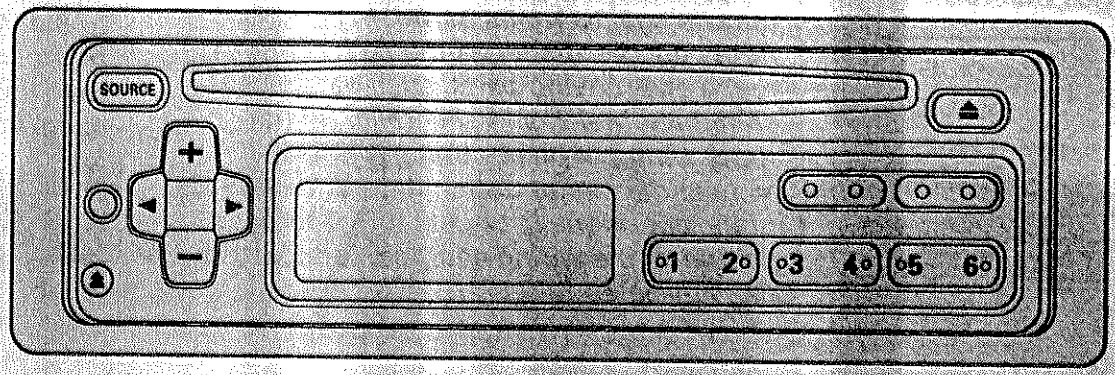
Nous vous remercions d'avoir acheté cet appareil PIONEER. Avant de l'utiliser, prendre soin de lire ce manuel.

Muchas gracias por la adquisición de este producto PIONEER. Antes de tratar de operarlo, lea atentamente este manual.

شكرا لك على شرائك جهاز پايونير هذا. قبل محاولة تشغيله تأكد من قراءة هذا الدليل.

SPARE PARTS MASTER

SPARE PARTS MASTER




DEH-513

PIONEER®

*The Art of Entertainment*

DEH-513
DEH-313

ENGLISH

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## Composition of manual

This manual applies to the DEH-513, DEH-313.
However, the illustrations show the DEH-513.

FRANÇAIS

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## Composition du manuel

Ce manuel s'applique aux DEH-513, DEH-313.
Toutefois, les illustrations montrent le DEH-513.

ESPAÑOL

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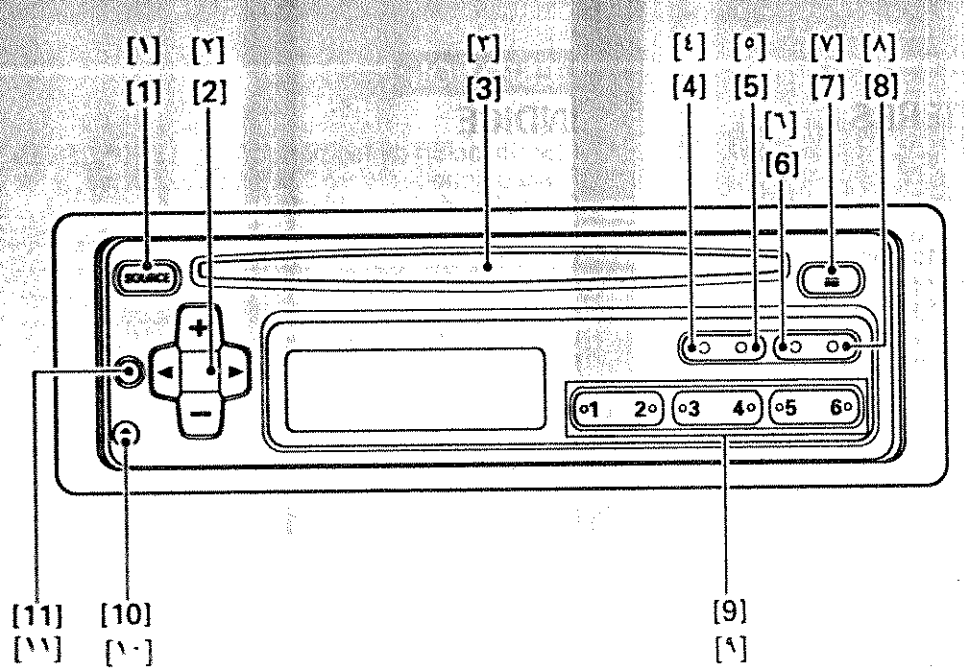
## Composición del manual

Este manual es aplicable a los modelos DEH-513, DEH-313.
Sin embargo, las ilustraciones corresponden al modelo DEH-513.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[1] [2]
[٣]
[3]
[٤] [٥] [٧] [٨]
[4] [5] [7] [8]
[٦]
[6]
SOURCE
1 2 3 4 5 6
[11] [10]
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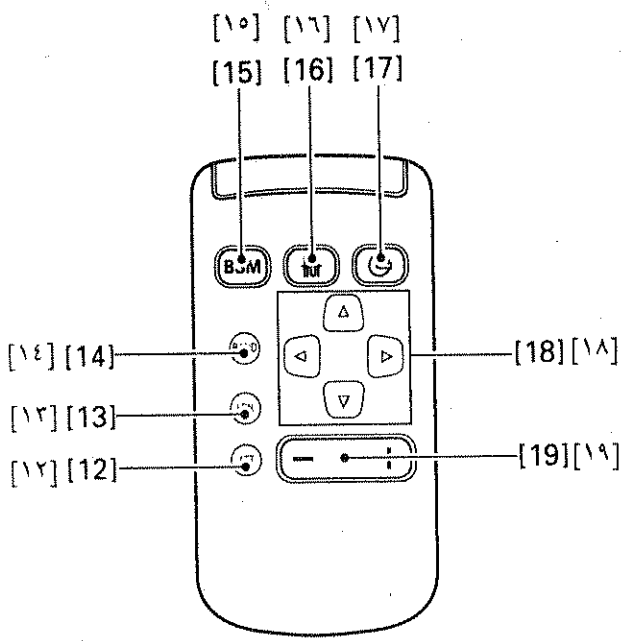
[9]
[٩]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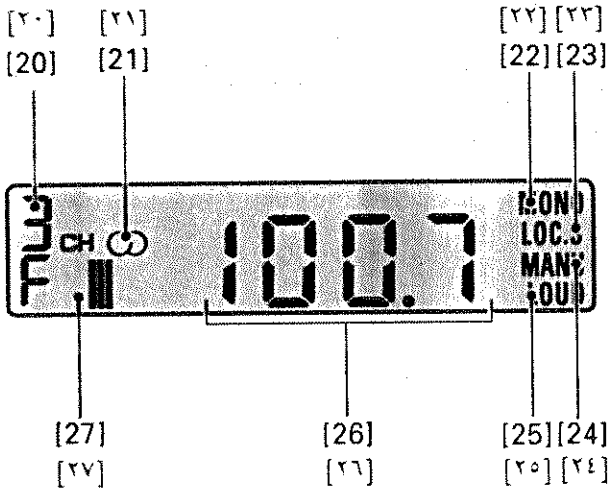
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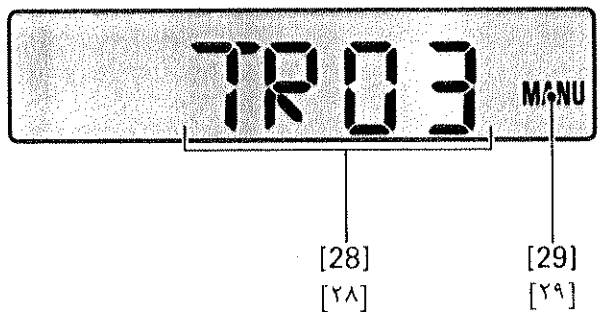
TR03
MANU
[28]
[٢٨]
[29]
[٢٩]

# Precautions

**CAUTION:USE OF CONTROL OR ADJUSTMENT OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.**

**CAUTION:THE USE OF OPTICAL INSTRUMENTS WITH THIS PRODUCT WILL INCREASE EYE HAZARD.**

**Note:**

- *Do not disassemble the unit.*

**In case of trouble**

When the unit does not operate properly, contact your dealer or the nearest authorized PIONEER Service Station.

# Connecting the Units

**Note:**

- *This unit is for vehicles with a 12-volt battery and negative grounding. Before installing it in a recreational vehicle, truck, or bus, check the battery voltage.*
- *To avoid shorts in the electrical system, be sure to disconnect the battery ⊖ cable before beginning installation.*
- *After completing installation and wiring, double check that there are no mistakes. Re-install any parts removed from the car during installation, then connect the battery negative terminal.*
- *Refer to the owner's manual for details on connecting the various cords of the power amp and other units, them make connections correctly.*
- *Secure the wiring with cable clamps or adhesive tape. To protect the wiring, wrap adhesive tape around them where they lie against metal parts.*
- *Route and secure all wiring so it cannot touch any moving parts, such as the gear shift, handbrake, and seat rails. Do not route wiring in places that get hot, such as near the heater outlet. If the insulation of the wiring melts or gets torn, there is a danger of the wiring short-circuiting to the vehicle body.*
- *Don't pass the orange lead through a hole into the engine compartment to connect to the battery. This will damage the lead insulation and cause a very dangerous short.*
- *Do not shorten any leads. If you do, the protection circuit may fail to work when it should.*
- *Never feed power to other equipment by cutting the insulation of the power supply lead of the unit and tapping into the lead. The current capacity of the lead will be exceeded, causing over heating.*
- *When replacing fuses, be sure to use only fuses of the rating prescribed on the fuse holder.*
- *Since a unique BPTL circuit is employed, never wire so the speaker leads are directly grounded or the left and right speaker ⊖ leads are common.*
- *Speakers connected to this unit must be high-power type possessing maximum input of at least 22 W and impedance of 4 to 8 ohms. Connecting speakers with output and/or impedance values other than those noted here can damage the speakers.*

- *When an external power amp is being used with this system, be sure not to connect the blue lead to the amp's power terminal. Likewise, do not connect the auto-antenna lead to the power terminal of the auto-antenna. Such connection could cause excessive current drain and malfunction.*
- *When the unit is mounted in a vehicle whose ignition switch does not have the ACC (accessory) position as shown in Fig. 2, be sure to connect the red lead of the unit to the terminal controlled by the ignition switch ON/OFF position. If you do not, the vehicle battery may go flat when you leave your vehicle for several hours. (Fig. 1: ACC position/Fig. 2: No ACC position)*

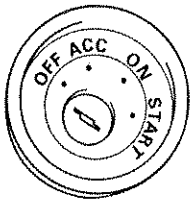


Fig. 1

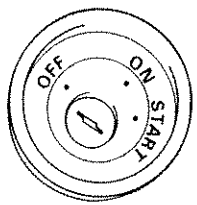


Fig. 2

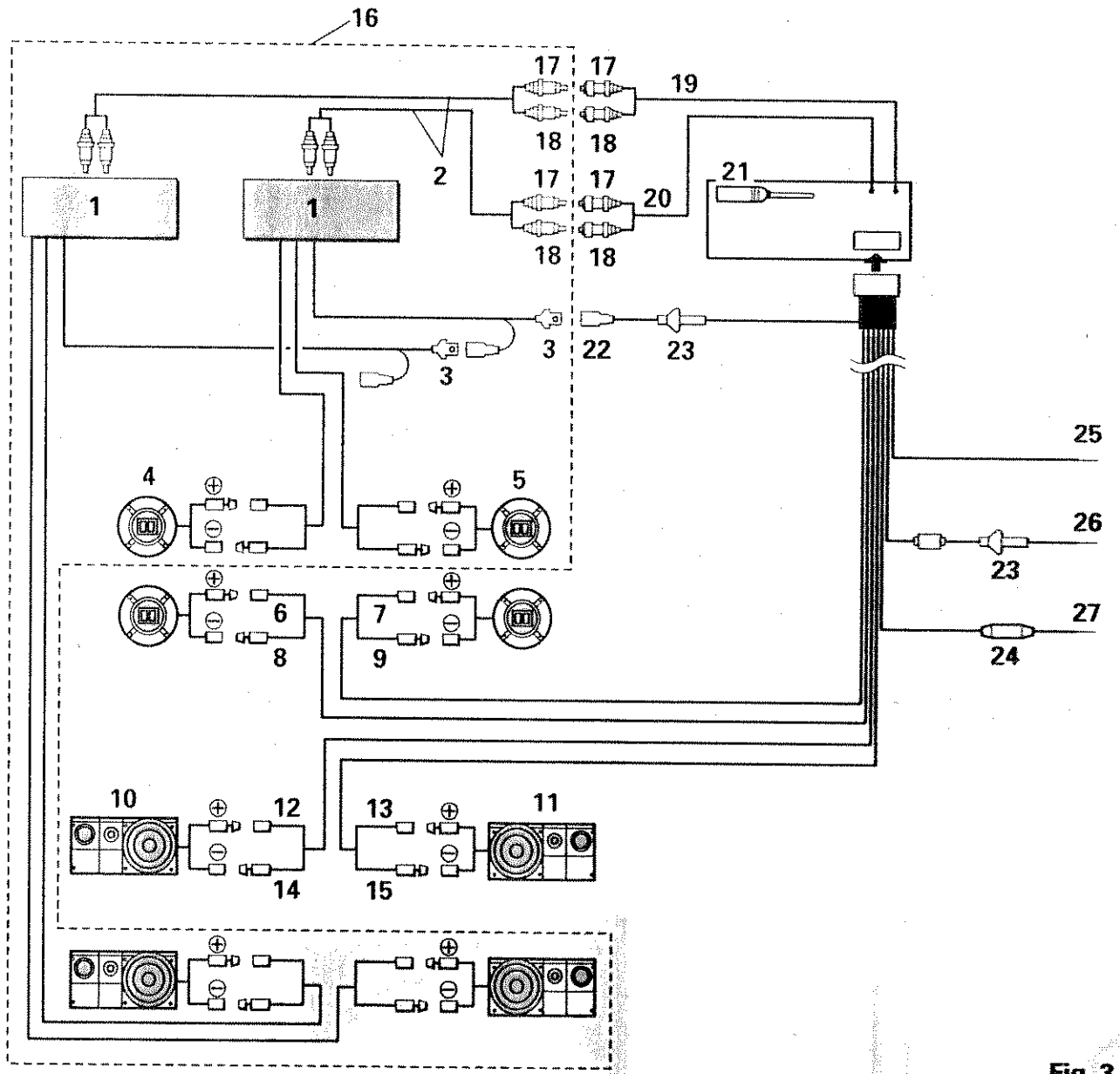


Fig. 3

## Connection Diagram (Fig. 3)

1. Power amp (sold separately)
2. Connecting cords with RCA pin plugs (sold separately)
3. Blue
4. Front/left speaker
5. Front/right speaker
6. Green
7. Gray
8. Green/black
9. Gray/black
10. Rear/left speaker
11. Rear/right speaker
12. Green/red
13. Gray/red
14. Black/green
15. Black/gray
16. Connected only when the optional amplifier is used. Nothing is connected when operating the built-in amplifier itself.
17. White
18. Red
19. Rear out
20. Front out (DEH-313 does not have this terminal.)
21. Antenna jack
22. Blue
    To system control terminal of the power amp or Auto-antenna relay control terminal (Max. 300 mA 12 V DC).
23. Fuse holder
24. Fuse resistor
25. Black (ground)
    To vehicle (metal) body.
26. Orange
    To terminal always supplied with power regardless of ignition switch position.
27. Red
    To electric terminal controlled by ignition switch (12 V DC) ON/OFF.



# Installation

**Note:**

- *Before finally installing the unit, connect the wiring temporarily and make sure it is all connected up properly and the unit and the system work properly.*
- *Use only the parts included with the unit to ensure proper installation. The use of unauthorized parts can cause malfunctions.*
- *Consult with your nearest dealer if installation requires the drilling of holes or other modifications of the vehicle.*
- *Install the unit where it does not get in the driver's way and cannot injure the passenger if there is a sudden stop, like an emergency stop.*
- *If installation angle exceeds 60° from horizontal, the unit might not give its optimum performance. (Fig. 4)*

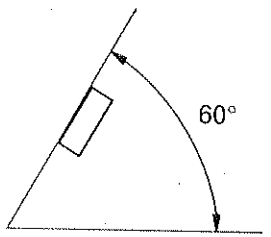


**Fig. 4**

- *The semiconductor laser will be damaged if it overheats, so don't install the unit anywhere hot — for instance, near a heater outlet.*

## DIN Front/Rear-mount

This unit can be properly installed either from "Front" (conventional DIN Front-mount) or "Rear" (DIN Rear-mount installation, utilizing threaded screw holes at the sides of unit chassis). For details, refer to the following illustrated installation methods.

## DIN Front-mount

### Installation with the rubber bush (Fig. 5)

### Installation without the rubber bush (Fig. 6)

1. Dashboard
2. Holder
   After inserting the holder into the dashboard, select the appropriate tabs according to the thickness of the dashboard material and bend them inwards to secure the holder in place.
3. Rubber bush
4. Screw
5. Nut (5 mm)
6. Drill a 5.5 — 6.0 mm diameter hole.
7. Screw (5 × 16 mm)
8. Strap
   Be sure to use the strap to secure the back of the unit in place. The strap can be bent by hand to the desired angle.

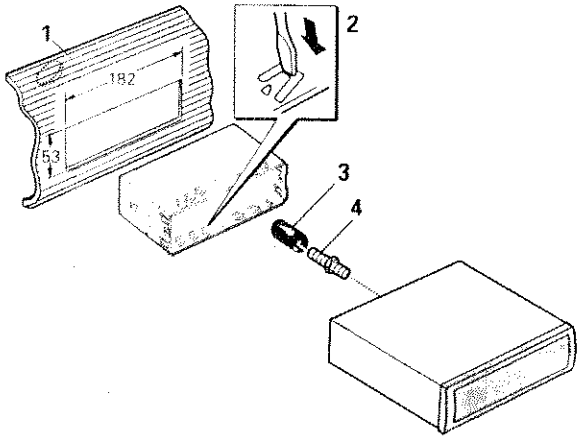


Fig. 5

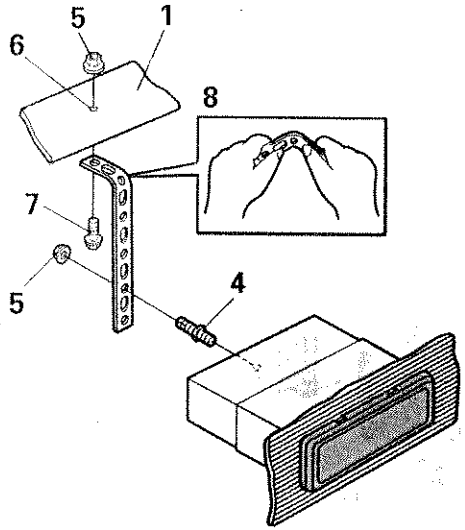


Fig. 6

### Removing the unit (Fig. 7) (Fig. 8)

9. Frame
10. Insert the release pin into the hole in the bottom of the frame and pull out to remove the frame.
    (When re-attaching the frame, point the side with a groove downwards and attach it.)
11. Insert the supplied extraction keys into the unit, as shown in the figure, until they click into place. Keeping the keys pressed against the sides of the unit, pull the unit out.
12. Tab

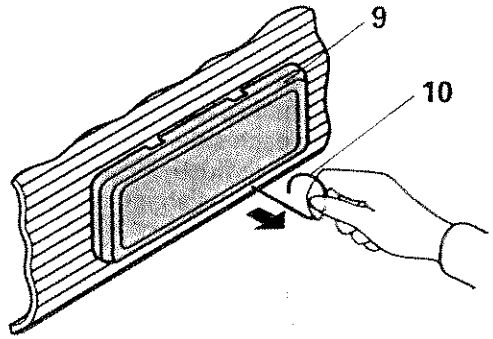


Fig. 7

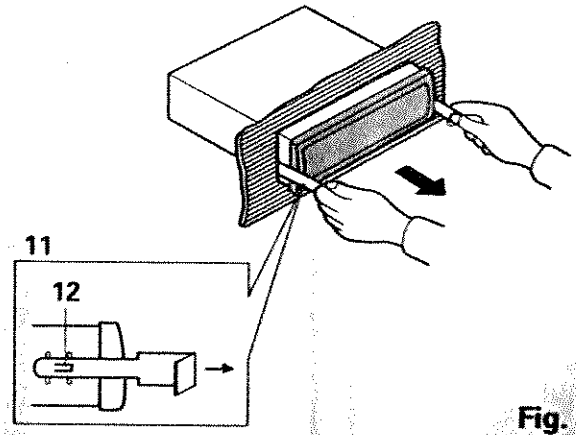


Fig. 8

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## DIN Rear-mount

### Installation using the screw holes on the sides of the unit

### 1. Remove the frame. (Fig. 9)

13. Frame
14. Insert the release pin into the hole in the bottom of the frame and pull out to remove the frame.
    (When re-attaching the frame, point the side with a groove downwards and attach it.)

### 2. Fastening the unit to the factory radio mounting bracket. (Fig. 10) (Fig. 11)

15. Select a position where the screw holes of the bracket and the screw holes of the main unit become aligned (are fitted), and tighten the screws at 2 places on each side. Use either bind screws (5 × 8 mm) or flush surface screws (5 × 8 mm), depending on the shape of the screw holes in the bracket.
16. Screw (5 × 8 mm)
17. Factory radio mounting bracket
18. Dashboard or Console

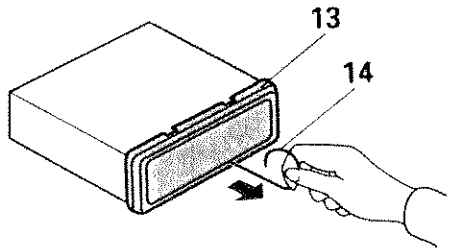



Fig. 9

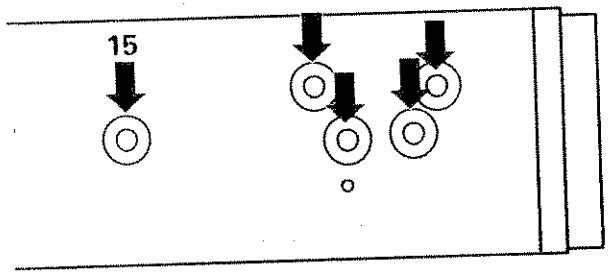



Fig. 10

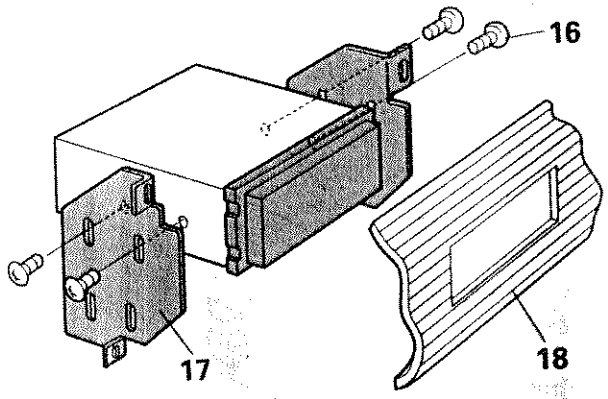



Fig. 11

## Installing the Remote Controller Unit (Fig. 12)

- *DEH-313 does not come with a remote control.*

Affix a strip of Velcro tape to the back of the remote control unit. Remove the oil paper on the back and affix into place.

- Thoroughly wipe off the surface before affixing the Velcro tape.

19. Rough surface
20. Attach Velcro tape to the back of the remote control unit.
21. Soft surface
22. Remove the oilpaper from the back and attach.

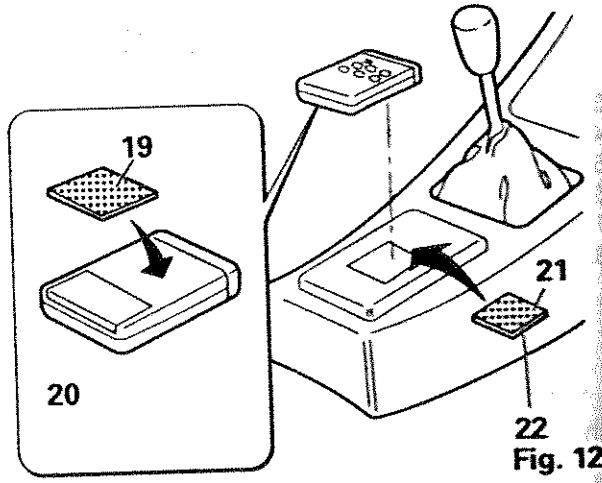



Fig. 12

# Using the Removable Front Panel

**Parts Identification**

[10] Detach

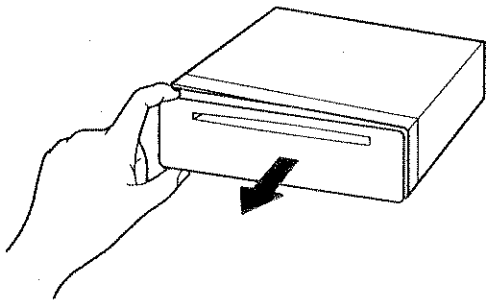
## Function

The front panel of this unit can be removed as a theft deterrent.

## Detaching the Front Panel

- *Do not detach the front panel when loading or ejecting a disc.*

1. Press button [10].
2. Grasp the left side of the front panel and pull.



3. Put the front panel into the handy carrying case.

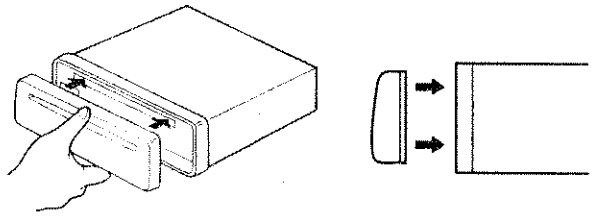
- *The handy carrying case (optional) is not supplied with the DEH-313.*

## Attaching the Front Panel

- *Do not press against the display and buttons.*

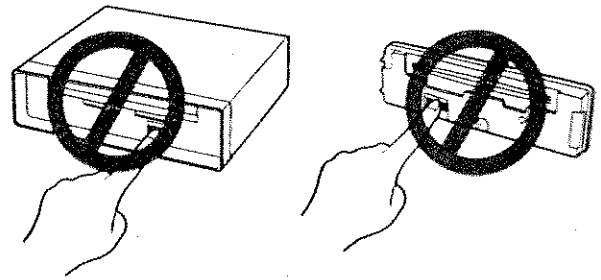
1. Press the front panel against the main unit.

- *Makes sure that the front panel is parallel to the main unit.*



**Precautions**

- *Do not hold the display tightly.*
- *Do not subject the front panel to excessive shock.*
- *Do not place the front panel in high temperatures or direct sunlight.*
- *Do not use benzene, paint thinner, or other volatile fluids to clean the front panel.*
- *Do not disassemble the front panel.*
- *Do not touch the terminals on the front panel and unit. (If the terminals are dirty, use a clean dry cloth to clean.)*



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# Changing the Source

**Parts Identification**

[1] Source

## Changing the Source

Each time the button [1] is pressed, the source will change in the following sequence:

Built-in CD player — Tuner — OFF

- If there is no disc in the built-in CD player, the source will not change to "built-in CD player".

# Adjusting the Audio

**Parts Identification**

[2] Volume/Audio adjustment
[11] Shift
[12] Attenuator
[25] Loudness

## Mode Selection

Each press of button [11] changes the mode as follows:

Volume adjustment (V) — Balance adjustment (F/B) — Tone adjustment (BS/TR) — Loudness adjustment (LOUd)

- When you are adjusting fader, balance, bass or treble, the indicator will stop at the center setting. About 8 seconds after adjustment, the display returns to its previous state.

**Volume Adjustment**

Pressing the (+) side of button [2] increases the volume, while the (–) side decreases it. (Display shows "V-00" ~ "V-30".)

- When driving your vehicle, be sure to keep the volume of the unit set low enough to allow you to hear sounds coming from outside.

**Balance Adjustment**

Press button [11] to select balance adjustment mode. ("F" appears on the display.) Adjust the fader using the (+) or (–) side of button [2]. To adjust the balance, press either the (◄) or (►) side of button [2] to turn on B.

**Fader**

Press the (+) side of button [2] to raise the volume of the front speaker only. Press the (–) side of the button to raise the volume of the rear speaker only.
(Display shows "F-F9" ~ "F-R9".)

- Please set "F-0" when using 2 speaker system.

**Balance**

Pressing the (◄) side of button [2] shifts the balance to the left speaker, while the (►) side shifts it to the right speaker.
(Display shows "B-L9" ~ "B-R9".)

### Tone Adjustment

Press button [11] to select tone adjustment mode. ("BS" appears.) Select the tone you wish to adjust using the (◄) or (►) side of button [2]. Each press of the (►) side changes the tone from BS — TR, while each press of the (◄) side changes the tone from TR — BS.

### Bass Adjustment

Select the Bass mode.
Pressing the (+) side of button [2] increases bass, while the (–) side decreases bass. (Display shows "BS -6" ~ "BS 6".)

### Treble Adjustment

Select Treble adjustment mode.
Pressing the (+) side of button [2] increases treble, while the (–) side decreases treble. (Display shows "TR -6" ~ "TR 6".)

### Loudness Adjustment

This "loudness" function enhances both the high and low ranges of sound to give even more power to output even at low volume.
Press button [11] to select loudness adjustment mode. (The "LOUd" indicator appears on the display.)
Pressing the (►) side of button [2] turns the loudness function on (LOUD [25] light up), pressing the (◄) side turns it off.

## Attenuator

• *DEH-313 does not have this function.*

The volume will be reduced to about 1/10. Press button [12]. ("V-12" will blink.) To cancel, press the button again.

# Using the Tuner

### Parts Identification

[1] Source
[2] Tuning
  Seek/Manual
  Local Seek Sensitivity
[4] Band
[5] Local mode
[6] BSM/Preset Scan
[8] FM Monaural
[9] Preset
[9] ①② Tuning Step
[20] Preset Number
[21] FM Stereo
[22] FM Monaural
[23] Local mode
[24] Manual
[26] Frequency
[27] Band

## Changing the Tuning

**The main unit permits two kinds of tuning steps to be set up. As the tuning step varies from one region to another, switch the tuning step to match the region in which the unit is used.**

### AM Band

The AM band can be set at either 9 kHz or 10 kHz ( the initial setting is 9 kHz). Turn the vehicle ignition to ON while pressing ② of button [9] to switch between 9 kHz and 10 kHz.

### FM Band

The FM band can be set at either 100 kHz or 50 kHz (the initial setting is 100 kHz). Turn the vehicle ignition to ON while pressing ① of button [9] to switches between 100 kHz and 50 kHz.

- Carying out seek tuning when the FM band is set at 50 kHz may cause the tuning to stop just before the broadcast station. Should this occur, perform the tuning again using either manual or seek tunig.

## Listening to the Radio

1. Set the source to "tuner" by pressing button [1].
   - For details, refer to "Changing the Source" on page 10.
2. Select the band by pressing button [4]. Each time the button is pressed, the band will change in the following sequence: FI(FM1) → FII(FM2) → FIII(FM3) → A(AM)
3. Use seek tuning or manual tuning to tune to a radio station.

3-1. Set the tuning mode to "seek" or "manual" by pressing the (◄) and (►) sides of button [2] simultaneously. Repeat this operation to switch to the other tuning mode. (When the manual tuning mode is set, "MANU" [24] will be displayed.)

3-2. Tune by Press (◄) or (►) of button [2]. (When there is a stereo broadcast, "◯" [21] will be displayed.)

**Seek Tuning:**
When the button is pressed, stations whose signal strength is above a certain level will be tuned automatically.

**Manual Tuning:**
When the button is pressed, the frequency will change by one step up or down.

## Using the Preset Memory

The radio stations can be stored in memory under buttons 1 to 6 of [9].

1. Tune in to the station to be stored in memory.
2. Store the station in memory by pressing one of the buttons (1 to 6) for at least 2 seconds. When the [20] number stops blinking, the station will be stored in memory under the button pressed.
   - Up to 18 FM stations and 6 AM stations can be stored in memory.

## Preset Tuning

The radio stations stored in memory can be recalled by pressing the respective button 1 to 6 of [9]. The station stored under that button will be recalled. (The number of the button pressed will be displayed at [20].)

## Using the Best Stations Memory (BSM)

The radio stations having a strong signal can be tuned automatically and stored in memory under buttons 1 to 6 [9]. Press button [6] for at least 2 seconds. (The "----" will blink.) After "----" stops blinking, the stations will be stored in memory under buttons 1 to 6 of [9].

- BSM can be canceled mid-operation by pressing button [6].
- The stations will be stored under buttons 1 to 6 in the order of their signal strength. The strongest station will be stored under button 1, followed by stations with lower signal strengths.
- If there are fewer than 6 stations whose signal is strong, there will be spare memory.
- It will take almost 30 seconds for BSM to be completed.

## Preset Scan Tuning

This recalls in sequence all the stations stored in memory under the buttons [9] for 8 seconds each. Press button [6]. (The [20] number will blink.) To cancel, press the button again. After the desired station is tuned, cancel the preset scan tuning. The station will then continue to be received.

- Stations stored in memory under the buttons [9] but whose signal is weak will not be recalled.

## Local Seek Tuning

When the local mode is set, the seek tuning's sensitivity level will become high and only stations with a strong signal will be seek tuned. The local mode's seek sensitivity can be adjusted.

### Setting the Local Mode

Press button [5]. (The "LOC.S" [23] will light.) To cancel the local mode, press the button again.

### Adjusting the Local Seek Sensitivity

There are 4 local seek sensitivity steps for FM and 2 steps for AM.

- LOC-4 is the highest seek tuning sensitivity level. Only the stations with a strong signal are tuned. LOC-3, LOC-2, and LOC-1 in descending order enables the tuning of stations with a respectively weaker signal.

1. Set to local seek sensitivity adjustment mode. Press button [5] for at least 2 seconds. (The current sensitivity level "LOC2" will be displayed.)
   - The local seek sensitivity adjustment mode will be canceled after about 5 seconds.
2. Adjust the sensitivity level by pressing (◄) or (►) of button [2].

## FM Monaural Reception

If a stereo broadcast has a lot of noise, switching to the monaural reception mode will reduce the noise. Press button [8]. ("MONO" [22] will appear on the display.) To cancel, press the button again.

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# Playing Compact Discs

**Parts Identification**

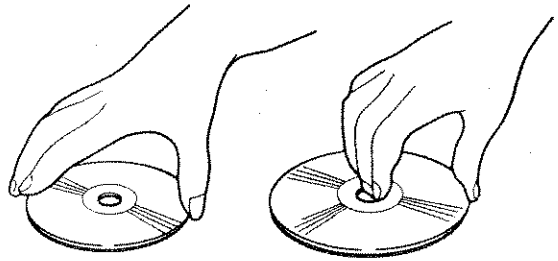
[1] Source
[2] Track Number Search
Fast Forward and Reverse
[3] Disc Insertion Slot
[7] Eject
[9] ① Pause
② Repeat
③ Random play
[28] Track number
[29] Manual

Discs

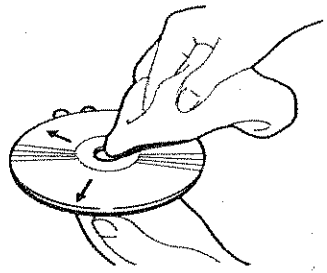
- *Only use compact discs (optical digital audio discs) bearing the mark shown below.*

COMPACT disc DIGITAL AUDIO

- *Do not use cracked, scratched, or warped discs.*
- *Do not touch the disc's playing side. Handle the disc as shown below.*



- *Do not affix any label on the disc.*
- *Do not apply any vinyl record spray, anti-static agent, benzene, paint thinner, or any other volatile chemicals.*
- *Do not play a dirty disc. Use a soft cloth to clean a dirty disc as shown below. Wipe the disc outward from the center.*



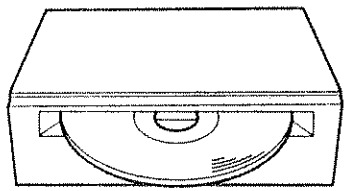
- *Do not place the disc in high temperatures and direct sunlight.*
- *Be sure to store the disc in its case.*

**CD Playing Environment**

- Disc playback may be interrupted by sudden road shock.
- When the air temperature is low and the car heater is turned on, condensation on the disc and internal parts of the unit may prevent proper playback operation. If this happens, turn off the unit and wait one hour until the condensation is gone. Also, use a soft cloth to wipe off any condensation from the disc.

## Listening to the CD Player

1. With the label side up, insert a disc into [3]. Playback will start. (The track number [28] will be displayed.)
   - *Do not insert the disc with the label side down. Doing so may scratch the disc.*
   - If the disc stops midway while it is being inserted or if there is no playback after a disc is inserted, something may be wrong with the disc. Eject the disc and check it.
2. Turn ON/OFF the disc playback. Press button [1] to change the source.
   - For details, refer to "Changing the Source".
3. Eject the disc by pressing button [7].
   - *Do not leave the disc halfway into the unit as shown below. Doing so may cause the disc to be bent or dropped.*



## Using Track Number Search, Fast Forward and Reverse

1. Set the mode to "track number search " or "fast forward and reverse". Press the (◄) and (►) sides of button [2] simultaneously. Each time this is repeated, the mode will switch between the track number search mode and fast forward and reverse mode. (When the fast forward and reverse mode is set, "MANU" [29] will light. Playback time is then indicated in [28] on the display.)
2. Execute a track number search or fast forward and reverse by pressing (◄) and (►) of button [2].
   - Playback sound can be heard during fast forward and reverse.

## Pausing

The disc playback can be stopped temporarily by pressing ⏯ of button [9]. (The "----" will be displayed.) To cancel the pause, press the button again.

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## Repeat

1. **To repeat the music you are listening to, press button ② of [9] ("RPT" will appear on the display).**
2. **To cancel music repeat, press button ② of [9] to turn off "RPT".**

## Random Play

1. **To play music randomly, press button ③ of [9] ("RDM" will appear on the display). Once the current track has been played, the microprocessor will randomly select the next and subsequent tracks.**
2. **To cancel random play, press button ③ of [9] to turn off "RDM".**

- ***Since selections are played in random order, the same selection may be played twice in succession.***

## Error Display

If there is a problem with CD playback, an error code will be displayed.
(Ex.: "E-10")
If an error is displayed, refer to the table below to identify the problem. If the error is displayed even after corrective action is taken, contact your dealer or the nearest authorized PIONEER Service Station.

**D: Display**
**C: Cause**
**T: Treatment**

**D:** E-11, 12, 14, 17, 30
**C:** The disc is dirty.
**T:** Clean the disc.

**D:** E-11, 12, 17, 30
**C:** The disc is scratched.
**T:** Replace the disc.

**D:** E-11, 14, 17
**C:** The disc is inserted with the label side down.
**T:** Insert the disc with the label side up.

**D:** E-14
**C:** An unrecorded CD-R is being used.
**T:** Check the disc.

**D: Display**
**C: Cause**
**T: Treatment**

**D:** E-10, 11, 12,14, 17, 30, A0
**C:** Electrical or mechanical fault.
**T:** Turn off the car's ignition and turn it back on again. Or change the source to another one and then change it back to CD.

**D:** HHHH
**C:** The CD player's internal temperature is high.
**T:** Wait until the CD player's internal temperature goes down.

# Additional Functions

**Parts Identification**

[1] Clock
[9] ① Hour
② Minute
③ Synchronization with a time announcement

## Using the Clock Display

**Displaying the Time**

Press button [1] for more than 2 seconds. Press button [1] again for more than 2 seconds to release.

- The clock can be displayed only when the power is ON.
- When another operation is executed, the clock will turn off for about 25 seconds and then turn on again.

**Adjusting the Hour**

While pressing button [1], press button ① [9] to advance the hour by one hour.

- When the button is held down, the hour will change quickly.

**Adjusting the Minute**

While pressing button [1], press button ② [9] to advance the minute by one minute.

- When the button is held down, the minute will change quickly.
- After the minute is adjusted, the clock will start from 0 second when button [1] is released.

**Set the time time using "Synchronization with a time announcement."**

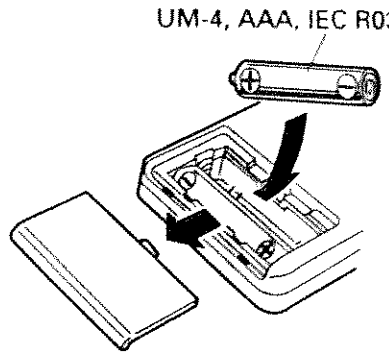
Pressing button ③ of [9] while holding down button [1] causes the time to display as ":00."

- When the minute display is in the range 00-29, the minute figure is restarted from zero. (Example: When the time is "10:18," it restarts from "10:00".)
- When the minute display is in the range 30-59, the hour figure is rounded up to restart the minutes. (Example: When the time is "10:36", it restarts from "11:00".)

# Using the Remote Control

- *DEH-313 does not have this function.*

## Loading Batteries




**Precautions**

- *Do not place the remote control unit in high temperatures or in direct sunlight.*
- *Install the batteries in the proper direction.*
- *Use only UM-4, AAA, or IEC R03 1.5 V batteries.*
- *Do not mix old and new batteries.*
- *The batteries provided with the unit are not rechargeable. Therefore do not recharge them.*
- *If the remote control unit is not to be used for more than a month, remove the batteries.*
- *If there is battery leakage, wipe the leakage completely and install new batteries.*

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**Note:**

- Point the remote control at sensor [7] on the main unit.
  Otherwise, remote control operation may not be executed.
- When the main unit is in direct sunlight, remote control operation might not be possible.

## Common Functions for Tuner and CD

**[12] Attenuator**

**[13] Learn**

Following the procedures below, the learn button on the remote controller can be used to perform the same operation as the button on the main unit.

1. Set to learn mode by pressing button [4] for at least 2 seconds. ("LRN" will be displayed.)
   - The learn mode will be canceled after about 8 seconds.
2. Press the button on the main unit that you want memorized on the remote controller.
   - Learn function cannot be used for button [10].

**[19] Volume**

## Tuner Functions

**[14] Band**

**[15] BSM**

Hold down the button for at least two seconds to switch the BSM function ON and OFF.

**[16] Tuner power source**

Press the button to switch the tuner power source ON and OFF.

**[18] (◄) (►) Seek tuning/Manual tuning**

Press the buttons to select the station.
Press button [2] on the main unit to switch between seek tuning and manual tuning (see "Listening to the radio").
It is not possible to switch between seek and manual tuning using button [18].

**[18] (▲) (▼) Preset Tuning**

When this button is pressed, the stations stored under the button [9] will be recalled in sequence.

## CD Functions

**[17] CD power source**

Press the button to turn the CD power source ON and OFF.

**[18] (◄) (►) Track Number Search**

When this button is pressed, the track number will advance.

# Specifications

## General

Power source ..... 14.4 V DC (10.8 — 15.6 V allowable)
Grounding system ..... Negative type
Max. current consumption ..... 6 A
Dimensions
(DIN) (mounting size) ..... 178 (W) × 50 (H) × 150 (D) mm
(nose) ..... 188 (W) × 58 (H) × 20 (D) mm
(D) (mounting size) ..... 178 (W) × 50 (H) × 155 (D) mm
(nose) ..... 170 (W) × 48 (H) × 15 (D) mm
Weight ..... 1.5 kg

## Amplifier

Continuous power output is 10 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.
Max. power output ..... 22 W × 4 (EIAJ)
Continuous power output ..... 14 W × 4 (1% dist. at 1 kHz)
Load impedance ..... 4Ω (4 — 8Ω allowable)
Preout output level/ output impedance ..... 500 mV/1 kΩ
Tone controls (bass) ..... ±10 dB (100 Hz)
(treble) ..... ±10 dB (10 kHz)
Loudness contour ..... +10 dB (100 Hz), +7 dB (10 kHz) (volume: –30 dB)

## CD player

System ..... Compact disc audio system
Usable discs ..... Compact disc
Signal format ..... Sampling frequency: 44.1 kHz
Number of quantization bits: 16; linear
Frequency characteristics ..... 5 — 20,000 Hz (±1 dB)
Signal-to-noise ratio ..... 94 dB (1 kHz) (IEC-A network)
Dynamic range ..... 90 dB (1 kHz)
Number of channels ..... 2 (stereo)

## FM tuner

Frequency range ..... 87.5 — 108 MHz
Usable sensitivity ..... 11 dBf (1.0μV/75Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity ..... 16 dBf (1.7μV/75Ω, mono)
Signal-to-noise ratio ..... 70 dB (IEC-A network)
Distortion ..... 0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response ..... 30 — 15,000 Hz (±3 dB)
Stereo separation ..... 40 dB (at 65 dBf, 1 kHz)

## AM tuner

Frequency range ..... 531 — 1,602 kHz (9 kHz)
530 — 1,710 kHz (10 kHz)
Usable sensitivity ..... 18μV (25 dB) (S/N: 20 dB)
Selectivity ..... 50 dB (±9 kHz)
50 dB (±10 kHz)

**Note:**

Specifications and the design are subject to possible modification without notice due to improvements.

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